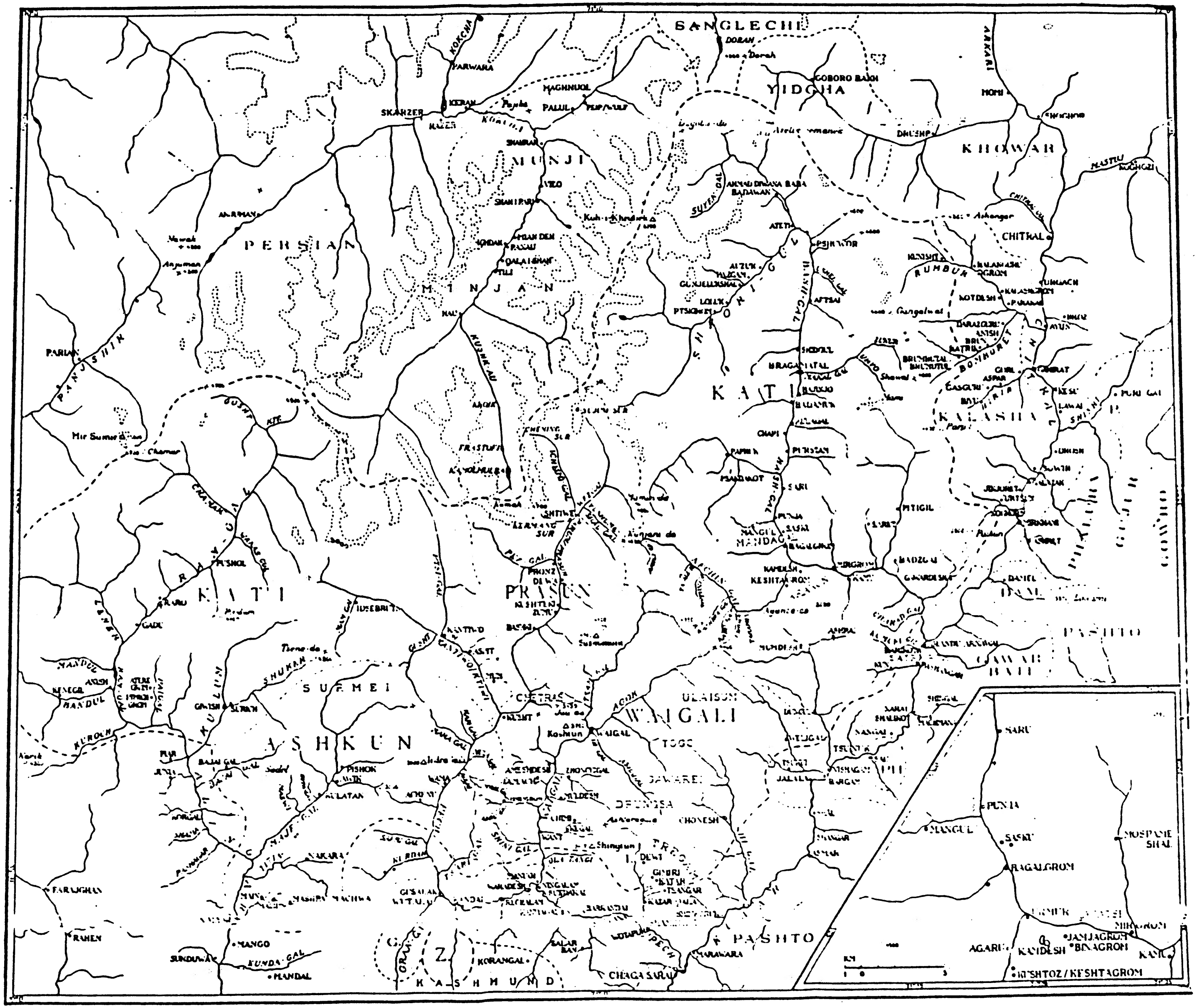
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REGIONAL REPORT: NURISTAN

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Fig. 277: Map of Nuristan, with linguistic regions. Drawn by Aage Andersen in 1978.

This map and also Fig. 99 (colour) have previously been published in L. Edelberg & S. Jones: NURISTAN (Graz 1979).



LUTKUH region
mountain pasture
Dorah pass
BASH-GAL river
DORAH lake
Kushtun, summit
3760 3760 metres above sealevel
• CHITRAL town
• WAIGAL village/hamlet
tower/ruin
• mines of Lapis Lazuli
× [illegible] quarry near KANTIWO
• sang-i-navishta
• rock marking

KILOMETRES
5 0 5 10 15 20 25

NURISTAN (1978)

BASIS FOR REPORT: a trip to the northern Bashgul valley by a pediatrician for two months in the fall, 1986. Publications and verbal accounts are also used,

INTRODUCTION: Nuristan is an ethnic region, on the southern slopes of the Hindu Kush mountains. It was settled thousands of years ago by "Indo-european" tribes. Although the Nuristanis often attribute their origin to Alexander, it is clear from Alexander's chroniclers that these tribes, with their frequent blondism and light eyes, were already present in the area when he arrived. They practiced a religion similar to the ancient Greek, based on deitys and animal sacrifice, until they were forcibly converted to Islam by Abdur Rahman Khan in 1896. "Kafiristan", the Land of the Infidels, became "Nuristan", the "Land of Light". Despite the name change, Nuristan continued as a remote tribal area, infrequently traveled to, culturally isolated, feared by its neighbors, until the outbreak of the war in 1979. With the Russian invasion and their concomitant closure of the major highways to the nascent resistance, Nuristan, with its protected mountain passes became a major conduit for the Mujahideen to the northern areas of Panjshir, Takhor, and Badakshan. Perhaps 24,000 men and horses (verbal communication, Massoud Khalili) pass through this area each year. As such, Nuristan is vital to the continued resistance of the entire north of Afghanistan east of Mazir-i-Sharif.

GEOGRAPHY: The region's borders are the Hindu Kush to the north, Pakistan to the east, and Panjshir to the west. The southern border has been variable, as the Pashtouns have pushed north and the Nuristanis have retreated into an ever shrinking Waigul. Roughly speaking, Nuristan comprises the northern halves of Kunar and Laghman provinces, from latitude 35° to 36°N. and longitude 70° to 72°E., covering an area of about 10,500 square kilometers.

The region is divided into three main valleys separated by high mountain passes of 4000 to 4600 meters. The main valleys are the eastern, Bashgul, the southern Waigul, and the western, Ramgul. The Presun area, containing the village of Kantiwa, is a bridging region between eastern and western Nuristan.

TOPOGRAPHY: The peaks of the Hindu Kush are some of the highest and most rugged in the world. The valleys of Nuristan are narrow and isolated. The more southern valleys are lower in altitude, around 800 meters, and often densely forested with laurel, oak, walnut and conifers. The higher valleys to the north may have only juniper or be above the tree line. The rivers are wild rushing mountain torrents, prone to flooding, at times destroying the narrow cantilevered wooden bridges which transverse them. The soil is rocky, and cultivatible land is scarce. Tiny fields are served by a complex system of carefully maintained irrigation canals. Villages tend to be built on rocky outcroppings, the wooden and mud houses built several storys high to further conserve cultivatible land. Although at one time a jeep road reportedly ran from Kabul as far north as Bargematel, most of the region is crisscrossed only by rocky footpaths. Many of the valleys are completely cut off from each other for 4 to 6 months each winter.

CLIMATE: Like the topography, climate varies with altitude. The growing season in the southern valleys is 7 months, while in the north it may be as short as 3 months. Winter lows may be -15°, and summer highs can be over 30°. Winter can bring well over a meter of snow, and there are sometimes torrential downpours in the spring, but summer and fall are dry. Over 90% of the water in the area comes from the melting snow-pack on the surrounding mountains.

ROUTES IN AND OUT OF NURISTAN: Only major strategic routes are discussed. The major routes from Pakistan are:

1)via Garm Chasma, a village which is a 3 hour jeep ride from Chitral, then over the Ashangar pass (4300m.) and on into Peshuwor in Nuristan. This 2 to 3 day passage is Jamiat's major route. Closed in the winter, it opens to men around May 15, and to animals around July 1, depending on the year. It closes around Oct. 15 to Nov. 1.

2)via Bomboret, a Kalash village 2 to 3 hours by jeep from Chitral, over the Shawal pass (4600m.) and then down into Barge-e- matel. Used primarily by the Dawlet, it takes 2-3 days, and closes about the same time as Garm Chasma.

3)via Gawardesh, a village north of Drosh. This pass is only about 3000 meters, thus it can be passed by men all winter. It is closed to animals for three or four months. Formerly controlled by Awar Amin Khan of Kamdesh, it is currently controlled by no one, thus it can be dangerous due to ambushes.

4)via Barikot, where there is a garrison of the Afghan army. This route is strategic, as there is no pass to cross--thus the area is passable the entire year. The last Pakistani check-point is at Arandu. From there a bridge is crossed over the Kunar, night falls, and the passage around Barikot is made under the cover of darkness, passing within about a kilometer of a watchtower of the garrison. Shots may be fired, fatalities are rare. This area is controlled by Hezb-i-Islami (Hekmatyar). Occasionally other groups pass here by fording the Kunar rather than using the bridge. This can't be done in the spring or summer when the river is high. The river is followed into Kamdesh, a 2 day easy walk.

Routes out of Nuristan:

1)via Diwana Baba over the Azelik (4600m.) or Dugobu-do pass to Badakshan. This pass has been controlled for the past several years by an Afghan army garrison. Thus, what would otherwise be a 3 day passage into Badakshan becomes the 2 week grueling trip described below.

2)The "Jamiat" route into the north. After entering Pshuwor, the Bashgul river is descended through Dawlet territory. Just after Purstam, a right turn is made, following the Paryun tributary west past Papruk, through Kantiwa, (controlled by Haji Ghafour, a member of Hezb-i, but a relative of Massoud Khalili. So far, he has always allowed Jamiat to pass through his region) and thus over 2 more passes, out of western Nuristan and on into Panjshir. (traced on map) In all, five passes are crossed; an exhausting 2 to 3 weeks.

Many other passes are marked on the map, however, so far as I have been able to ascertain, none of the other routes are heavily used or strategic.

TRAVEL CONSIDERATIONS AND COSTS: Most trips to Nuristan will take place from July through October, when animals can traverse the safest passes. Men travelling without animals can travel May through November Barikot is passable with Hezb-i-Islami all year, but leaving Hezb-i controlled areas in Nuristan once there, may prove difficult. Because of the height of the passes, most foreigners travelling should have everything carried by porters or animals. Getting over the passes is extremely difficult, and best done on horseback. Most horses cannot carry any load above 3500 meters, so they have to be unloaded to cross the pass. Donkeys can generally manage their loads over the passes, and have the additional advantage of being easier and cheaper to feed. The weight which can be carried depends on the individual, the length of the journey, and the height of the passes. In general, men will carry 20-40 kg., but charge extra above 20 kg. Donkeys carry about 50 kg., and horses 100 kg. Men generally charge around 200 rupees per day. A horse generally costs 500-600 rupees for the 2 day trip into Nuristan, donkeys somewhat less. Of course the prices are variable, and experienced Persian speakers may pay less. In general, however, travel costs in Nuristan are high. If a horse is killed or seriously wounded, which is common, additional fees are levied.

Caves exist where the night can be spent along the way, but adequate shelter and firewood is scarce, so the trip must be carefully planned. There are primitive tea shops occasionally, but it is a good idea to carry additional food. Water is abundant and clear.

Once in Nuristan, tea shops, rudimentary hotels and restaurants are available. A meal and night's lodging may cost 30-50 rupees. Chickens can cost over 50 rupees,and are often not available. Goats can often be had for around 500 rupees. If supplemental food is not purchased, most travellers who do not have local government support, or something to offer (medicine), will lose weight. Dried fruit, seasonal produce, nuts and sometimes eggs or cheese can also be had for a price, but the produce of Nuristan is really just adequate for its own population. It is not sufficient for the thousands who travel through it.

Although many Afghans travelling through Nuristan are fearful of the local people, and talk about the risk of thieves, from the two months that I spent in the area, and in speaking to others, it

would seem that this feeling is born more out fear of these unknown primative tribes, and the inability to communicate with them, rather than frequent ambushes.

THE POPULATION: In the mid-seventies published population estimates were 60,000-90,000. This number may still be representative, as most of the population still remains in the villages, internal refugees have largely been excluded unless they have relatives in the area, and the death rate is quite high. In the 15 villages I visited, most structures were occupied by families, but the buildings were mostly old, with little evidence of recent building or new expansion.

The population is quite homogenious, having occupied the region for centuries. The Presun population is somewhat darker and smaller, with flatter features. The oral history of the local people indicate that they may be a previously conquered indigenous race. In Kafir times, they were frequently used as slaves and laborers. Gujars were introduced from India 100-150 years ago. Their numbers are small, living mostly as shepards in the higher summer pastures, they are not accepted by the rest of the population. The traditional tribal divisions (Kam, Kati, Presun, Wai) described by Robertson in 1895, as well as twentieth century anthropologists, seems less important now: with the war, the ascendency of political parties seems to have disrupted the old tribal rule. The map indicates the old tribal regions, and to an extent, newer political alliances tend to follow old traditional tribal divisions, i.e.; Bashgul Kati: Dawlet; Kam and Wai: Hezb-i-Islami. It must be noted that this is only a tendency, the actual political situation in Nuristan is very complicated and fluid, and somewhat chaotic (see below).

THE ECONOMY: Prior to the war, Nuristan had an isolated, insular, largely non-monetary agricultural society. Most villages did not have a single shop. Goods were exchanged via barter. For decades however, the Nuristanis left their region to exchange clarified butter, (ghee), cheese, and goatskins, for salt and finished goods (Chitrali caps, for example), in Pakistan or Panjshir.

With the advent of the war and the concomitant "opening" of Nuristan, money became common, inflation developed, and twentieth century products such as radios, flashlights, and synthetic textiles have become common. Traditional handicrafts such as weaving, woodcarving,

and metal work have dropped off. Now virtually all villages have at least one shop, often several, selling tea, sugar, walnuts, rice, soap, textiles, cigarettes, cooking utensils, and sometimes medicines.

In the Dawlet controlled area, (Mandigal, north through Peshuwar, then west to Ptsigrom), taxes are assessed from farmers and merchants at a rate of 10% in money or goods. Currently no road tax is assessed to travellers through the area, although this has been a feature in the past. Outside financial assistance reportedly comes from Saudi Arabia, but I have no specifics on this. The government controlled by Amir Afzal of Nik Muk (the village is also known as Bud Muk or Saidabad) reportedly has sufficient funds to pay certain public officials plus an army of 5000-6000 a salary of 200-300 rupees a month, plus food. This is perhaps a little optimistic however, frequently grumbling would occur when the payroll was late or could not be met.

Another unquantified and rarely discussed source of income is poppy and marijuana production. I saw no evidence of local production, although it may well exist. The local people say that most of the production is in Badakshan, and passes through Nuristan to Pakistan. The village of Aptsai is known for its involvement in this traffic. Marijuana smoking is common among men; referances to opium smoking were rare, and I saw no evidence of it.

The general impression of the economic status of the people is that they are poor, but live adequately, perhaps better than before the war. Their clothing is often ragged, but there is very little frank malnutrition. The local persons still live largely by barter. For those who must live by paying money, Nuristan is expensive. All supplies that are not locally produced must be packed in from Pakistan, there is no trade with Kabul. A chicken that cost 5 rupees ten years ago now costs 30-50, kerosene costs 80-100 rupees when it is available, (drums are about one gallon).

POLITICAL HISTORY SINCE THE WAR:

Nuristan prides itself in having been one of the first regions to have revolted against the socialist government. They did so in late 1978 and 1979, prior to the Soviet invasion. The fighting was reportedly fierce, lasting several months; the area was bombed as well, but ultimately the Nuristanis were victorious, and they declared themselves "independent" from the Afghan government in 1979. Because of this, Nuristan served as a example for the resistance in the early

stages of the war. The region was chaotic however, suffering from poor organization and political infighting.

In 1981, an independent, conservative Islamic government called the Dawlet-i-Islami (Islamic Government) was organized in the upper Bashgul valley. Mawlawi Afzal of Nik Muk (see above), who reportedly attended madrasa in Saudi Arabia, was declared amir. There have been suspicions in the past that this group was actually a Soviet front, because a Colonel Sarwar, a Nuristani from the village of Raro in the Ramgul valley of western Nuristan, spent 3 to 5 months in Nik Muk, summer, 1981, helping to organize the nascent government bureaucracy. This man is now known to be a KHAD agent, who has spent time in Moscow, and is currently living in Kabul. However in 1981, Sarwar was believed to be just another returning refugee from Pakistan to a freshly "liberated" Nuristan. Although Sarwar never spent much time with the Dawlet, he did help to organize it, and he also organized for a time material support which was coming clandestinely from the government in Kabul. Dawlet government officials state that at the time they believed that the support was coming from Saudi Arabia, however at some point they became suspicious of Sarwar, how I do not know. At any rate, the Dawlet has probably not received any assistance from Sarwar for at least three years.

For the last few years the Dawlet has been on good terms with th Jamiat-i-Islami, and as noted above, large numbers of their Mujahiddin, currently pass through the area.

The situation in the rest of Nuristan is even less clear-cut, and the information presented here is not first-hand, it is gleaned from many different individuals, most of them local. From Kamdesh to Gawardesh in the Bashgul valley, Hezbi-i-Islami is the dominant group, however the entire region is reportedly somewhat infiltrated by pro-soviet sympathizers and informers, who have also penetrated Hezb-i. In addition, there are some maoists, as well as supporters of Jamiat, the Dawlet, and old partisans of Anwar Amin Khan. Waigul is reportedly controlled by Hezb-i, but other groups are also present.

The most important leader in the Presun area of Kantiwa is reportedly Haji Ghafour, a member of Hezb-i, unfriendly to the Dawlet, but a relative of Massoud Khalili, with traditional good relations to the Jamiat.

I am not familiar with the politics of western Nuristan. Being the native area of Sarwar, he may have considerable support in the

area, although Jamiat troops do pass through the northern reaches of Ramgul generally unharassed. The degree of clandestine support of the Soviet government in general and Sarwar in particular is difficult to assess in Nuristan. Personally I do not feel that it is widespread. However I did meet a few individuals who were known to be supporters of him, and there are others who state that the resistance cannot possibly win, and so it is more pragmatic to go over to the government side, rather than face future warfare.

Since 1979, there has been very little active fighting in Nuristan. Its mountainous terrain and fierce reputation may explain in part why there have not been more governmental incursionsMembers of Hezb-i from Kamdesh south and east do participate in attacks on Barikot. Kamdesh was bombed in late January, 1987, reportedly with the loss of 30 lives in retaliation to an attack on Barikot a month earlier.

Although the Dawlet reportedly maintains an army of 5-6000, and Hezb-i conducts attacks against government posts, Nuristan is not famous for its military commanders. Its leaders could better be described as men of influence. In the Dawlet controlled areas, each village has a chief, either a military man or a mullah, who is respsible to Afzal. These local chiefs do not seem to be more powerful than mayors of normal villages anywhere in the world.

PRODUCE AND DIET: Farmers and shepards, the Nuristanis are a rare example of man living relatively harmoniously in his environment. Although most of the rest of Afghanistan and Pakistan was deforested at least 400 years ago, the Nuristanis, with their strict rules on wood gathering, irrigation and fertilization, have not denuded their valleys. Avid hunters however, they have managed to hunt snow leopards markors and bears to the brink of extinction in their region.

Fields are planted by men, but daily toil belongs exclusively to the women. Irrigation is closely regulated, as water can be scarce. Fields are fertilized once or twice yearly with compost made from nightsoil and laurel leaves. Wheat and millet are grown, but in recent years, maize, a poorer source of staple protein, has started to take over. It is easier to cultivate, and is rarely beaten down by rain. Other crops include pumpkins and squash, red beans, potatoes, lentils, tomatoes, hazelnuts, pine nuts, walnuts, mulberries, grapes, pomegranates, apples, and apricots.

Animals raised include chickens, goats, sheep and dairy cattle. Of these, goats are by far the most common. The Nuristani's are avid dairymen, producing large quantities of milk, lassi, ghee, and cheese. Beef is consumed mostly in winter when the animals are down from the summer pastures and it is difficult to feed them. Poultry and eggs are relatively scarce. Fish is consumed only in the spring, and not in large quantities. The rivers are not well stocked, and the Kafirs never considered fish to be food.

Some honey is produced in the southern valleys. All produce is more abundant in the lower warmer southern valleys. The northern valleys have a very short growing season, and commerce with other valleys is very limited, they do not eat as well, and the population in these regions appears to be shrinking.

Although a listing of all available produce is impressive, the average family is poor and does not eat well. Of course, lack of nutritional understanding contributes significantly. The average family eats nan twice daily with a single vegetable or ghee or cheese. Meat or eggs is generally not consumed more often than twice weekly. Men eat first and best, and the elderly eat better than the young. Most food is well cooked, produce is rarely consumed raw, although food may be held from one meal to the next, contributing to contamination. Notibly, meat is sometimes consumed raw, sliced off the still warm animal just after slaughter. Fat especially is popular eaten this way. This habit contributes significantly to the incidence of tapeworm in the region.

Infant feeding practices in Nuristan are generally quite good. In the fall of 1986, diarrhea, although present, was not common in children. There are few bottles and not much powdered milk in the area, virtually all the infants are breast fed. Weaning is started generally at six months, the first food being "schmouk" a wheat gruel made from boiled flour, ghee, and a little salt or sugar. Finger foods are introduced at 9-12 months, and weaning is completed by 2-2½ years, at which time the mother usually becomes pregnant again. It is not uncommon to see a toddler trying to wrest the breast from a newborn rival. Significant problems are the delayed introduction of adequate proteins, inadequate variety, the giving of left-over dirty food, and the severe maternal anemias which are transmitted to the children and aggrevated by their ubiquitous worm infestations.

EDUCATIONAL STATUS AND LITERACY:

Prewar estimates of literacy in Afghanistan have been in the range of 3-5%. Literacy rates in Nuristan today may be even lower. Reading and writing depends on familarity with Pashtu or Farci, since the Nuristani language traditionally has no written form. Women speak almost exclusively Nuristani, possibly 50% of men speak some Farci, and many of these can write their name, but little else. Reportedly, prior to the war, several schools in Waigul taught classes in Pashtu to about the third grade level. In Bashgul however, Pashtu is infrequently spoken. In the part of the Bashgul valley visited on this trip, schools were seen in Nik Muk and Bargematel. Classes met, on an irregular basis, for boys only. The focus was primarily on the Koran. The only textbook was a picture primer, which the people said has been supplied by the Saudis.

EXISTING MEDICAL SERVICES

Medical services in Nuristan are virtually nonexistant. A practioner trained by the Union of Mujahideen Doctors who arri ved in Bargematel last fall, died of appendicitis this winter. Another practioner, Ghullam Hussain, who has received a salary and medicines from VOLAGs in the past, is also, according to recent reports, no longer active. He had been seen on numerous occasions to refuse medical care, clandestinely sell donated medicines, and to dispense medicines sometimes in a dangerous manner. (Injections of nikethamide, B-12, and streptomycin). So far as I am aware, there are no other trained personnel.

In the part of Nuristan visited there were no mid-wives, trained or traditional. Women were delivered by their female relatives.

Traditional medicine consists primarily of local burning, the wrapping of a fresh killed goat skin around the sick or injured, and the withholding of certain "hot" or "cold" foods from the ill. The people seemed to question their practices, frequently asking if what they were doing had any positive effect.

SIGNIFICANT HEALTH PROBLEMS IN THE REGION:

The following discussion is based on approximately 1200 patient visits in 15 villages. Because precise records were not kept, percentages in this section represent my impressions only.

As elsewhere in the developing world, most illness was due to infectious disease. Because Nuristan is not currently engaged in fighting, no battle injuries were seen. About 6 individuals were seen, however, with gunshot wounds, or chronic osteomyelitis as a result of gunshot.

In the villages of Ptsigrom (about 100 families) and Lulok (about 40 families) the villagers had made a special request to the Amir that I visit, because of an epidemic which had occurred in their area the previous winter which reportedly killed 90 children. If the figure is correct, (it probably is somewhat exagerated) it would represent about half of the expected under 5 population. The disease described was classic pertussis, with spasmotic cough, the highest mortality occurring in children under 2. Historians spontaneously described a cough lasting weeks to months, with subconjunctival hemorrhages and air tracking into the soft tissues of the neck from the coughing spasms. These signs are considered definative diagnostic criteria of the disease.

Another common infectious disease seen was tuberculosis. About 10% of people presenting to clinic (see table below) had classic symptoms of active disease such as a history of hemoptysis, children with lymphadenopathy and failure to thrive in a household with hemoptysis, scrofula, cough with chronic adenitis, or Potts disease. Also seen in almost every village, were one or two cases of extremely severe, life threatening acute pneumonia which was not T.B.

Abscesses, impetigo and pediculosis were common, especially in children. Worm infestation is ubiquitous. Ascaris is extremely common in children and many adults are infested with taenea. I have no proof of hookworm, but suspect that it is prevalent. Anemia in women and is a serious problem.

Another severe problem in Nuristan is trachoma. It is extremely common, with perhaps 15-20% bearing the stigmata of the disease. Even children as young as 2-3 years are affected. Many burnt out cases would benefit from surgery. Total blindness may affect about 1%, with serious loss of visual acuity being much more common. Other common eye problems were aggressive pterygiums, unoperated cataracts, and corneal scars. Pediatric purulent t conjunctivitis was quite rare.

Iodine deficiency goiter affects perhaps 90% of the adult female population, occasionally children, and perhaps 20-30% of the males. It is a cosmetic problem which also causes some discomfort. Two or three cases of mild retardation with deafness were seen, which may represent congenital iodine deficiency cretinism.

Dental hygiene was so bad that there were two year olds without a single healthy tooth in their heads. Young adults frequently were edentulous. Sugar is a much more common commodity in Nuristan than toothbrushes. Perhaps in addition to being deficient in iodine, the water is also deficient in fluoride. Pain and dietary problems secondary to dental disease are well appreciated, however dental disease to the degree that it exists in Nuristan may well also cause bacteremias with resultant abscesses and pneumonias.

Other problems seen less frequently, but still significant, were rheumatic heart disease (4 cases), sterility (about 10 cases--T.B.?), obstructive prostatic hypertrophy (4 cases), birth injuries in children and mothers and hyperventilation syndrome(!).

Significant in their relative rarity were diarrhea in general and weanling diarrhea in particular. This may have been due to the time of the year or the abundant water in Nuristan, as well as protracted breast feeding throughout the weaning period. Aside from rare cases of chelosis, I did not appreciate any specific vitamin deficiencies, although others have reported vitamins C and B deficiencies inside of Afghanistan.

Brief notations were kept on ~~the~~ 420 patient encounters made in various villages. From these notes the following chart of presenting complaints and clinical findings was made. This chart is much more representative of the peoples' perception of their problems, rather than their actual medical diseases. For example, although the chart does not actually reflect this, virtually everyone complained of backache and epigastric pain, which probably did not represent somatic disease. No one, however, complained of anemia, and dental disease, trachoma, and goiter were rarely mentioned, although virtually everyone suffered from these maladies. In addition, only major findings were briefly noted, and the patients did not receive complete physicals.

PRESENTING COMPLAINTS AND SIGNIFICANT FINDINGS
IN 420 PATIENTS PRESENTING TO CLINIC

WORM INFESTATION	23%
HEADACHE, MYALGIAS, WEAKNESS OR BACKACHE	20%
EPIGASTRIC PAIN, ABDOMINAL DISCOMFORT	15%
PROBABLE TUBERCULOSIS	9%
TRACHOMA	7%
PYRRHEA/DENTAL COMPLAINT	5%
CATARACT	5%
ARTHRITIS	5%
ABSCESS/IMPETIGO	4%
NASAL OR UPPER AIRWAY OBSTRUCTION	4%
GOITER	4%
OTITIS	3%

Other significant diseases which presented occasionally and have not been previously mentioned are PID or UTI (7 cases), cancer or mass (4), constipation (4), diarrhea (6), URI (6), CDH (3), and well child or delivery follow-ups (11).

Predictably in this remote region, many well persons came to clinic just to see what was happening and to get a few pills for the future.

MATERNAL-CHILD HEALTH SURVEY IN NURISTAN

METHOD: Bargematel, a village where I lived for a month, and became familar to the people, was selected. A population estimate was made by going house to house with a lifelong resident of the village and recording his recolection of the number of individuals in each household. When he was unsure of the number, the family in question or a neighbor was asked.

Then, using a translator known to the people, information was collected on 50 different extended families. Every attempt was made to actually visit the household and question the female head of house. However, in about 30% of the cases, information could only be gotten from the male head of house. In general, the people were forthcoming and open, even interested in the questions. However, the Nuristanis have no sense of chronology, thus dates and ages must contain enormous error. Sometimes when events were remote, details were difficult to obtain, thus some data had to be discarded in generating some of the statistics. The raw data and accompanying tables are appendiced.

Information was collected on 104 women and 490 pregnancies. Each family was asked to give the ages and sex of all family members, the number of pregnancies, early wastage, stillbirths, the age and perceived cause of any deaths, cord cutting techniques, weaning foods and practices, and the number of people currently living in the household.

1) STILLBORNS AND FETAL WASTAGE: 490 pregnancies resulted in 409 live births. Fetal wastage/stillbirths: 16.5%.

2) SEX SPECIFIC BIRTH RATE: Of 400 births where the sex of the infant was recorded, 188 were female, and 212 were male; or 47% female and 53% male. The predicted rate is 49% female and 51% male. It is not unusual to find underreporting of female births in the developing world. Thus, correcting for this error, gives a total of 416 live births, with 16 female births that were not reported. Expressed as a percentage, approximately 8% of predicted female births were not reported.

3) OVERALL MORTALITY OF LIVEBORN CHILDREN 5 YEARS AND UNDER: Of 409 liveborn children, 170 died before age 5 years. This gives a rate of 41.6 per 100 live births. Of course this figure contains error. A higher death rate would be obtained if liveborn children who have not yet reached the age of five (73 out of 409) werecorrected for. On the other hand, a lower figure would be obtained by correcting for predicted deaths due to smallpox. Over 1/3 of the deaths recorded occurred over 15 years

ago, and a substantial number of these deaths must have been due to smallpox which is no longer a factor.

4) SEX SPECIFIC 5 AND UNDER MORTALITY: Of 118 deaths where the sex of the child was recorded, 64 were boys and 54 were girls, giving a ratio of 54.2% male and 45.8% female. Of course this must be interpreted in light of the underreporting of females noted in 2) above.

5) MORTALITY RATE ONE MONTH AND LESS: Of 310 births where adequate data was collected, 39, or 12.6% died at one month or less.

6) MORTALITY BETWEEN ONE MONTH AND ONE YEAR: This was 57 of 310 births or 18.4%.

7) MORTALITY BETWEEN 1 AND 5 YEARS: 34 of 310 births, or 11%.

8) MORTALITY BETWEEN AGE 5 AND 20: 21 of 409 live births, or 5.1%.

9) MATERNAL MORTALITY: 7% of women died of causes directly attributed to childbirth.

10) AVERAGE NUMBER OF CHILDREN BORN DURING THE CHILDBEARING YEARS: The total number of children born to women 40 years and older was 8.

SUMMARY OF MORTALITY FIGURES

1) Stillbirths/fetal wastage:	16.5%
2) Overall 5 & under mortality:	41.6%
3) Mortality one month and less:	12.6%
4) Mortality 1 month to 1 year:	18.4%
5) Mortality 1 thru 5 years:	11%
6) Mortality 5 thru 20 years:	5.1%
7) Maternal mortality:	7%

ADDITIONAL INFORMATION

There were an average of 7.3 persons per household, often living in 2 or 3 rooms.

Virtually all umbilical cords were cut immediately with a nonsterile Knife. Rarely a razorblade was used. One family that had lived in Pakistan for a time purchased a new blade for cutting the cord. The cords are dressed with a variety of materials including Tobacco, ash, crushed nuts, salt or dirt warmed or fried in butter. Of course the risk of neonatal tetanus depends on how much these materials are heated. Ash brought fresh out of a fire is probably the only sterile material used. An additional dangerous practice seen in about 30% of the families was placing soil or cow dung warmed in butter on the baby's bottom, "to keep him dry".

RECOMMENDATIONS FOR FUTURE HEALTH CARE DELIVERY IN NURISTAN

Nuristan has virtually no trained medical personnel. Thus, finding interested individuals and training them either in Nuristan or in Pakistan needs to be a priority. Because of its strategic location, and the heavy travel of refugees and fighters through the area, maintaining clinics in several villages such as Bargematel, Kamdesh, Papruk, and Kantiwa is a goal worth working towards. Curative medicine however will have a limited impact on actual mortality. Preventive services such as sanitation, "clean cord kits", and vaccination programs, if they can be carried out, will have the greatest potential for improving survival.

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